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ACUTE CORONARY SYNDROME WITH NORMAL CORONARY ARTERIES: A PROGNOSTIC STUDY WITH CARDIAC MAGNETIC RESONANCE IMAGING AT 3-TESLA

ACC Oral Contributions
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Authors: *Romain Chopard, Jerome Jehl, Joanna Dutheil, Vincent Descotes-Genon, Marie-France Seronde, Nicolas Meneveau, Bruno Kastler, Francois Schiele, University Hospital Jean Minjoz, Besancon, France*

Aim Acute coronary syndrome (ACS) with normal coronary angiography is a frequent clinical situation with uncertain prognosis. Cardiac magnetic resonance imaging (CMRI) is a powerful tool for differential diagnosis between myocardial infarction (MI), acute myocarditis and Tako-tsubo cardiomyopathy (TTC), but can be uninformative in pts without detectable coronary lesion. Data are sparse regarding prognosis of pts presenting ACS with normal coronary arteries on CMRI. We evaluated short-term prognosis of this population.

Methods Seventy-nine consecutive pts (mean age 53 years, 39.2 % male) presenting ACS with normal coronary arteries by coronary angiography were prospectively included. Inclusion criteria were new-onset chest pain at rest, elevated troponin and strictly normal coronary angiography. All pts underwent CMRI at 3 Tesla within 3 weeks of presentation. CMRI included cine imaging, T2-weighted imaging and late gadolinium enhancement imaging to analyse left ventricular systolic function and detect myocardial inflammation, necrosis or fibrosis. All adverse events were recorded with 6 months follow-up.

Results An identifiable basis for ACS was established by CMRI in 69.6% of pts (27.8% MI, 29.1% acute myocarditis, 12.7% TTC). Only troponin level was significantly different between pts with normal vs abnormal CMRI (3.48±4.3 vs 11.86±11.99 µg/L respectively, p = 0.0028). During follow-up, 1 pt in the MI group suffered stroke (1.26%). In the myocarditis group, there was 1 episode of congestive heart failure (1.26%) and 7 pts had recurrent chest pain without troponin elevation (8.6%). Two TTC pts initially presented with cardiogenic shock (2.53%), but there were no adverse events in this group during follow-up. In the remaining 24 pts (30.2%), no clear diagnosis could be identified by CMRI, and no adverse events occurred during follow-up.

Conclusion CMRI is a useful tool for the management of ACS presenting with normal coronary angiography, as it helps to ascertain diagnosis and adapt treatment in a large proportion of cases. Nonetheless, patients with no anomalies identified by CMRI have an excellent prognosis, without need for specific treatment.